applicable increments have been made by the Federal Land Manager for the predicted Class I SO2 increment exceedances in the case of each North Dakota PSD permit issued since 1982 for sources affecting those areas.

- Ambient SO2 measured levels in Theodore Roosevelt National Park North and South Units since the last finding of no adverse effects on those Units in 1993 have remained stable or declined.

- Emission levels from minor sources (oil & gas) in proximity to the North Dakota Class I areas have decreased significantly since 1993.

- The allowable SO2 emissions from major North Dakota sources have not increased since the FLM determined that they would have no effect on North Dakota Class I areas.

- Several major grandfathered North Dakota sources have ceased or curtailed operation, expanding available SO2 increment.

- Preliminary, draft, nonguideline, modified Calpuff modeling, for a regulatory action that has been withdrawn, does not provide a sufficient basis for undertaking a SIP call based on Class I increment exceedance. The EPA-approved North Dakota SIP does not allow the use of such a model for such a purpose, and would require notice and opportunity for public comment prior to its use.

No substantial basis has been put forward by EPA for its new legal position that variances are not valid. The modeling does not show exceedances of the applicable alternative increments. On the basis of this evidence, Basin Electric submits that NDDH should carefully and thoroughly weigh whether there is a sufficient technical or legal basis for undertaking further proceedings, and whether a need has been demonstrated for revision of its SIP under 40 C.F.R. 51.166(a)(3).

II. The Decision on Whether to Initiate a Proceeding Based on Possible Increment Exceedance is First and Primarily a State Decision. Such a decision can be reversed by EPA only if EPA can demonstrate that it is clearly erroneous, arbitrary or capricious.

Section 101 of the Clean Air Act, from which the D.C. District Court mandated the PSD program, states:

> "that air pollution prevention (that is, the reduction or elimination, through any measures, of the amount of pollutants produced or created at the

> source) and air pollution control at its source, is the primary responsibility of States and local governments."

42 U.S.C. 7401.

The primary responsibility of the states for their air pollution control programs is nowhere more important than it is with respect to the program for the Prevention of Significant Deterioration ("PSD"), where what is "significant" is quintessentially a state decision based on the judgment of those affected by the proposed activity to be permitted. Indeed, that judgment of acceptable effect by those affected is the only way in which the "significance" in Prevention of Significant Deterioration is defined in practice. It is from that foundation that judgments and the exercise of agency discretion must be made.

How much deterioration is determined to be "significant," the root concept of PSD, and who would determine that, was the subject of a great deal of debate and policy analysis in formulating the PSD program. Exhibits F & G are the Federal Register notices containing that debate and consideration of alternatives. The "increment system" finally decided upon sets a maximum federal allowable increase by land use (essentially Class I PSD increments for national parks and wilderness areas above a certain size and Class II areas for the rest of the nation, subject to reclassification by states and Indian Tribes), but leaves the "triggering" of the date and area to which the increments will be applied up to the states (subject to certain federal minimum baseline areas, one microgram impact areas often referred to as source "footprints", around major stationary sources). Baseline areas cannot be smaller than the federal minimum baseline areas.

In discussing and deriving the amount of deterioration of air that would be regarded as significant, EPA noted that "[a]ny quantitative definition within this range [between zero deterioration and the NAAQS (the threshold for health and welfare effects)] must be essentially subjective, because within this range, data are not available with which to quantify any adverse impact on either public health or welfare." 38 Fed. Reg. 18986, 18988 (July 16, 1973). It also recognized that the very same amount of deterioration might be regarded as significant in some circumstances and insignificant in others:

> "The relative significance of air quality versus economic growth may be a variable dependent upon regional conditions. For example, relatively minor deterioration of the aesthetic quality of the air may be very significant in a recreational area in which great pride (and economic development) is derived from the 'clean air.' Conversely, in areas with severe unemployment and little recreational value, the same level of deterioration might very well be considered 'insignificant' in comparison to the favorable impact of new industrial growth with resultant employment and other economic opportunities. Accordingly, the definition of what constitutes significant deterioration must

> be accomplished in a manner to minimize the imposition of inequitable regulations on different segments of the Nation."

Id.

In other words, what amounts to "significant" deterioration is ultimately a matter of how those who are affected by it assess it. This is the primary policy reason supporting the determination of what deterioration of air will be regarded as significant as a state and local matter, not a nationally uniform matter. EPA specifically addressed who should make those decisions in adopting its first PSD regulations:

> "Any policy to prevent significant deterioration involves difficult questions regarding how the land in any areas is to be used. Traditionally, these land use decisions have been considered the prerogative of local and State governments, and in the regulations promulgated herein, the primary opportunity for making these decisions is reserved for the States and local governments. . . . In the Administrator's judgment, this matter should not be handled at the Federal level, but should become a matter for discussion and decision making at a governmental level in close contact with the area."

39 Fed. Reg. 31001, col. 2 (August 27, 1974).

In summary, the first and primary responsibility for PSD determinations, especially in a state such as North Dakota that has an independently administered and EPA-approved PSD program, lies with the state. Basin Electric submits that is the case with respect to the determination required by 40 C.F.R. 51.166(a)(3) dealing with protection of increments. The Court in the *Alabama Power* case resolved that management of the increments, including the setting of baseline areas, was a state prerogative.

EPA had promulgated PSD regulations that required a single, statewide baseline area in which the increment would be triggered by the first complete permit application. The Court found this "a remarkable assertion of administrative power to revise what Congress has wrought", 636 F.2d at 374, in finding the provision invalid. In the same case, environmental groups contended that EPA must "promulgate guidelines detailing the manner in which States may permit consumption of the available increments." *Id.* at 364. The Court, while not denying EPA a support role, stated that:

> " . . . this is not to say that the agency may prescribe the manner in which states will manage their allowed internal growth. In the allocation of responsibilities made by Congress, maximum limitations have been set. These must be observed by the states, but assuming such compliance, growth-management decisions were left by Congress for resolution by the states."

Id. In other words, increment management decisions are a matter of state prerogative, authority and discretion, subject only to binding federal maximums such as the Class II increments from which variances are not permitted.

It is one thing for EPA to assert that the States have authority to deal with "the totality of facilities . . . necessary to cope with a condition of pollutants exceeding the PSD increments." It is quite another for EPA to preempt the state's consideration of the matter, to substitute its judgment for the state's, and to mandate that "the State should have revised the SIP to correct the increment violations" based on EPA's new and unsupported view that the applicable increments are not the alternative increments that apply in variance situations, but the underlying Class I increments that triggered variance determinations. Such an assertion of EPA authority is not authorized by the Clean Air Act.

The courts have held, and EPA's Environmental Appeals Board has held, in numerous cases, that such determinations are for the states in the first instance, and may only be set aside if they are "clearly erroneous" (in the case of legal determinations such as the applicability of the Class I increments or the alternative increments in variance cases) or if EPA establishes that the state's action was arbitrary or capricious. *See, e.g., In Re Commonwealth Chesapeake Corp.*, 1997 WL 94742, PSD Appeal Nos. 96-2, et seq. (EAB 1997), at *4; *In re Maui Electric Co.*, 1998 WL 666709, PSD Appeal No. 98-2 (EAB 1998), at *12-13; *In the Matter of Old Dominion Ebe. Coop*, 1992 WL 92372, PSD Appeal No. 91-39 (EAB 1992), at *1. It is particularly appropriate that the state of North Dakota make the determination of whether further protection of increments and prevention of significant deterioration is required in this instance, when EPA's sole technical basis for asserting that there may be an exceedance of increment is the Calpuff modeling performed and furnished by the state for an unrelated purpose.

III. The Allowable Emissions of BEPC's Leland Olds Station are included in the baseline concentration and do not consume increment.

NDDH requests that "[w]ith regard to possible use of allowable emissions as baseline emission rates, please describe law, rule, case law, federal guidance or any other information to support such a position." LOS Unit 1 "commenced construction" in 1963 and LOS Unit 2 "commenced construction" in 1971. Those units were subjected to NDDH review and determination of appropriate pollution control equipment, specified in variances and permits issued by NDDH for LOS. Permits for LOS Units 1 & 2 have all been federally enforceable. The source-specific requirements and allowable emissions for particulate matter, SO2, and opacity applicable to each Unit are spelled out in the Air Pollution Control Permit to Operate dated March 12, 1990 (Ex. C), and are also reflected in the Title V Permit to Operate dated July 27, 1998 (relevant portions attached as Ex. D). The allowable level of SO2 emissions specific to LOS Unit 1 is 6,930 lb/hr (3-hr rolling average) and to LOS Unit 2 is 13,668 lb/hr (3-hr rolling average) and 3.0 lb/MMBTU for both LOS Units 1 and 2.

A. History of the Basis for Assessing Major Source Emissions.

EPA's first PSD regulations did not include sources which had "commenced construction or expansion prior to June 1, 1975." 40 C.F.R. 52.21(d)(1), 39 Fed. Reg. 42516 (Dec. 5, 1974). The preamble to the regulations stated that "[t]hese regulations will be effective January 6, 1975 and will be applicable to sources commencing construction on or after June 1, 1975." 39 Fed. Reg. 42514, col. 2 (Dec. 5, 1974). Both LOS Units 1 and 2, had commenced construction prior to June 1, 1975.

The emissions of LOS Units 1 & 2 were also included in the "baseline air quality concentration" defined by those regulations to include "the sum of ambient concentration levels existing during 1974" and "those additional concentrations estimated to result from sources granted approval (pursuant to approved new source review procedures) for construction or modification but not yet operating prior to January 1, 1975." 40 C.F.R. 52.21(b)(1), 39 Fed. Reg. 42514 (Dec. 5, 1974). LOS Units 1 and 2 had both commenced construction years before January 1, 1975. LOS Unit 1 was already in operation. LOS Unit 2 first operated in the fall of 1975. Thus the 1974 PSD regulations included the emissions from LOS Units 1 & 2 in the "baseline air quality concentration" and did not require new source review of either unit.

EPA revised its PSD regulations in 1978, subsequent to statutory authorization for those regulations in the Clean Air Act Amendments of 1977. EPA stated in adopting those regulations: "If a source commenced construction before June 1, 1975, it would be exempt (or "grandfathered") from PSD review altogether." 43 Fed. Reg. 26395, col. 3 (June 19, 1978). EPA also stated that what it meant by "actual emissions" being used to determine "baseline concentration" included allowable emissions: "Actual emissions also includes in the baseline any future increases in hours of operation or capacity utilization as they occur *if such are allowed to the source as of August 7, 1977, and if the source could have been reasonably expect to make these increases on this date*." *Id.* at 26400, cols. 2&3. (Emphasis added.) EPA confirmed this interpretation in 1980 when it repromulgated revised PSD regulations:

> ". . . EPA's June 1978 policy required increment calculations to be based on *emissions allowed under a permit or SIP* and not on actual source emissions."

45 Fed. Reg. 52720, col. 3 (August 7, 1980).

EPA's 1974 and 1978 PSD regulations, including those now in effect, have made it clear that LOS Units 1 and 2 were exempt or "grandfathered from PSD altogether" and that their "emissions allowed under a permit or SIP", and not actual source emissions, were included in the baseline concentration.

Section 169(4) of the Clean Air Act also defines "baseline concentration." It excluded from baseline "[e]missions of sulfur oxides . . . from any major emitting facility on which construction commenced after January 6, 1975," thus including in the baseline concentration emissions from sources that had commenced construction prior to that date. North Dakota regulations contain the same language: "[a]ctual emissions from any major stationary source on which construction commenced after the major source

baseline date [January 6, 1975]" are excluded from the baseline concentration. NDAC 35-15-15-01.l.d.(1)(a).

In its August 7, 1980 PSD regulations, EPA made significant changes to the way in which the increment was triggered, and the basis on which the agencies administering the PSD program, primarily the states, could determine which emissions were included in baseline concentration and which consumed increment. Until that point in time, there was no question that a grandfathered source was allowed to emit up to its permitted, allowable emission level, and that those emissions were in the baseline concentration.

EPA changed its regulations in response to what it termed "The Gulf Coast Problem." 45 Fed. Reg. 52720 (Aug. 7, 1980). That problem involved the Arab oil embargo, and a situation where sources had been permitted to switch to fuel oil instead of natural gas in the case of a natural gas shortage. If the allowable emissions of all of these contingently-permitted fuel switches to oil had been modeled, the Class II SO2 increment would have been violated and a moratorium on growth would have been imposed. EPA did not believe that theoretical increment consumption, rather than actual increment consumption, should limit growth. As a result, EPA devised an alternative test for "actual emissions" that a state, in its discretion, could use as an alternative to allowable emissions. This alternative was incorporated in the April 7, 1980 PSD regulations in the definition of "actual emissions", 40 C.F.R. 52.21(b)(21), and subsequently adopted by North Dakota, whose EPA-approved SIP contains, in relevant part, the following definition of "baseline concentration:"

" 'Baseline concentration' means that ambient concentration level which exists in the baseline area at the time of the minor source baseline date. A baseline concentration is determined for each contaminant for which a minor source baseline date is established and includes:

> "(a) The actual emissions representative of sources in existence on the applicable minor source baseline date, except as provided in paragraph 2;
>
> "(b) The allowable emissions of major stationary sources which commenced construction before the major source baseline date but were not in operation by the applicable minor source baseline date.
>
> "(2) The following will not be included in the baseline concentration and will affect the applicable maximum allowable increases:
>
> "(a) Actual emissions from any major stationary source on which construction commenced after the major source baseline date; and
>
> "(b) Actual emissions increases and decreases at any stationary source occurring after the minor source baseline date."

NDAC 33-15-15-01.d.(1) & (2).

Thus, what is in the baseline concentration is in turn dependent on the definition of "Actual emissions," at least for sources permitted under the August 7, 1980 regulations.

The new definition of "Actual emissions" adopted in the federal regulations in August 7, 1980, and followed in the North Dakota regulations in its EPA-approved SIP, is as follows:

> " 'Actual emissions' means the actual rate of emissions of a contaminant from an emissions unit, as determined in accordance with paragraphs 1 through 4.
>
> (1) In general, actual emissions as of a particular date must equal the average rate, in tons per year, at which the unit actually emitted the contaminant during [the] two-year period which precedes the particular date and which is representative of normal source operation. The department may allow the use of a different time period upon a determination that it is more representative of normal source operation. Actual emissions must be calculated using the unit's actual operating hours, production rates, and types of materials processed, stored, or combusted during the selected time period.
>
> (2) The department may presume that source-specific allowable emissions for the unit are equivalent to the actual emissions of the unit.
>
> (3) For any emissions unit . . . which has not begun normal operations on the particular date, actual emissions shall equal the potential to emit of the unit on that date."

NDAC 33-15-15-0l.1.a.

The NDDH is authorized to use either criteria (1), two-year historical representative emissions, or criteria (2), source-specific allowable emissions.

The choice North Dakota is authorized to make between these two alternative "emissions baselines" is a critically important one, especially for existing sources dependent on their permitted, allowable emissions to produce the product or commodity for which they were designed and around which their feasibility was determined. It would come as a great shock and to North Dakota source that it was not allowed to emit at its permitted, allowable level of emissions just because it had not done so for the last two or more years. We are not aware of any instance where EPA or a state has required a source to roll-back its emissions and limit them to a two-year historical level, even though the regulation theoretically authorizes that possibility. North Dakota is not in the circumstance presented by the Gulf Coast problem, where theoretical emissions were limiting growth. It is not appropriate for NDDH to exercise

its discretion to select the two-year historical emissions test in general, or for all sources. Basin Electric urges NDDH to carefully tailor the determination of "actual emissions" to each source and its historical situation. The selection of two year historical or allowable emissions is ultimately a matter of how much increment is used, a choice which is clearly delegated to the State of North Dakota.

Because of their concern that it might be limited to such a two-year period, not allowing it to increase its production to capacity at a time of low plant capacity utilization in the early 1980s, General Motors and others appealed this provision of the 1980 PSD regulations. General Motors would have been severely affected by use of the "two-year-historical" baseline. GM felt that the discretion of states to "presume" or to use "source-specific allowable" or permitted emissions as the "actual emissions" starting point for determining whether there was a "significant net increase" in emissions, 40 CFR §52.21(b)(21), was not adequate assurance that it could emit up to its permitted or source-specific allowable level of emissions. It was afraid that EPA might take the two-year-historical emissions baseline during extended low or off market periods and compare it with "potential" emissions, which would almost always show a significant "paper" increase over actual historical emissions. The court in *Alabama Power Co. v. Costle* had set aside EPA's attempt to use a similarly hypothetical and exaggerating "starting point" or "emissions baseline" in its original definition of "potential emissions" that disregarded real world limitations on emissions, such as pollution control devices, 636 F.2d 323, 352-55 (D.C. 1979).

EPA agreed to settle GM's appeal by amending the regulations as provided in Exhibit B to the settlement agreement, by adding a provision stating that:

> "a major modification shall be deemed <u>not</u> to occur if one of the following occurs: (a) there is no significant net increase in the source's potential to emit (as calculated in terms of pounds of pollutant emitted per hour); or (b) there is no significant increase in actual emissions." (Emphasis added).

Settlement Agreement, Ex. B, p. 1, paragraph A.1. (Included in excerpt from Settlement Agreement attached as Exhibit H).

This amendment would have solved the problem of GM and others who relied on their permitted or allowable emissions by setting the emissions baseline at a source's potential emissions rate expressed as pounds per hour. EPA has never implemented Exhibit B, which remains mired in EPA's "new source review reform" efforts. The use of allowable emissions as the baseline for North Dakota sources would be consistent with EPA's unfulfilled commitment to utilize potential emissions as baseline emissions.

B. If Two-Year Historical Emissions Were Used as a Baseline, the Two Years Must be Representative of Normal Operations.

It should, however, also be clear that even under the two-year, representative emissions rubric where EPA's 1980 PSD regulations provide that "baseline

concentration will no longer routinely include emissions increases after the baseline date from sources contributing to the baseline concentration, which are due to increased hours of operation or capacity utilization," EPA's

> "actual emissions policy, however, *does allow air quality impacts due to production rate increases to sometimes be considered as part of the baseline concentration*. If a source can demonstrate that its operation after the baseline date is more representative or normal source operation than its operation preceding the baseline date, the definition of actual emissions allows the reviewing authority to use the more representative period to calculate the source's actual emissions contribution to the baseline concentration. EPA thus believes that sufficient flexibility exists within the definition of actual emissions to allow any reasonably anticipated increases or decreases genuinely reflecting normal source operation to be included in the baseline concentration."

45 Fed. Reg. 52714-15 (Aug. 7, 1980). (Emphasis added.)

This same policy is reflecting in EPA's Draft October 1990 New Source Review Workshop Manual, which provides that in determining which emissions changes consume increment, the following sources:

"are initially reviewed to determine the need to include them in the increment inventory fall under two specific time frames as follows:

* * *

After the minor source baseline date –

- Existing stationary sources having increased hours of operation or capacity utilization (*unless such change was considered representative of operating conditions*);

NSR Draft Manual at C.35. (Emphasis added.) Thus under any view of North Dakota's authority, NDDH clearly has the discretion to determine that (1) source-specific allowable emissions of LOS Units 1 & 2 are included in the baseline concentration, or (2) that the normal and representative emissions of LOS Units 1 & 2 are those which were permitted and reflected in allowable emissions and "reasonably anticipated" to be emitted.

C. Summary

In summary, the allowable emissions of LOS Units 1 & 2 should be included in the baseline concentration. The regulations in effect in 1974 and in 1978 exempted LOS Unit 1 & 2 allowable emissions as specified in its permits and the applicable SIP. Even if NDDH does not regard the exemption of LOS Units 1 & 2 under those regulations as binding and consistent with later regulations, EPA's 1980 PSD regulations (those now in effect) and NDDH's EPA-approved SIP provisions allow NDDH to presume that "source-specific allowable" emissions are the "actual emissions" that are included in the baseline concentration. Indeed, EPA itself has noted that:

> "EPA believes that, in calculating actual emissions, emissions allowed under federally enforceable source-specific requirements should be presumed to represent actual emission levels. Source-specific requirements include permits that specify operating conditions for an individual source, such as [section] 51.18 [state permit] programs . . . and SIP emissions limitations established for individual sources.
>
> * * * *
>
> When EPA or a state devotes the resources necessary to develop source-specific emissions limitations, EPA believes it is reasonable to presume those limitations reflect actual source operation. EPA, states and sources should then be able to rely on those emissions limitations when modeling increment consumption."

45 Fed. Reg. 52718 (August 7, 1980).

In the alternative, permitted and allowable emissions, not actual emissions during 1976-77, should be considered as normal and representative, and therefore as baseline emissions.

IV. Response to Specific Questions.

The NDDH letter of July 3, 2001 asks for specific information and views of the use of historical emissions to establish the baseline emission rates at pages 2-3. While Basin Electric's position is that source-specific allowable SO2 emissions for LOS Units 1 & 2 as specified in its Title V permit are included in baseline concentration and are grandfathered from PSD altogether, we are providing the following information and views on the questions raised.

> **Questions 1 and 2.** NDDH attaches to its letter AP-42 calculations of SO2 emissions from LOS Units 1 & 2 and asks if Basin Electric can document "more reliable data than is provided in the Annual Emission Inventory Reports for 1974-1977, or a more accurate methodology for calculating emissions." The Department also requests input on the most reliable method for calculating historical 3-hour and 24-hour emission rates.
>
> Basin Electric believes that there are better methods than used by the NDDH for calculating the emissions of LOS during the period 1976-1977. LOS has had Continuous Emissions Monitors installed since 1995. Emissions measurements based on actual monitoring by a CEM is superior to calculation based on AP-42 factors, which represent performance tests at other plants, not source-specific emissions at LOS. Of course, there is no CEM data for 1976-77, so it is understandable why the NDDH based its calculations on AP-42 factors. Basin Electric is concerned that the Department, in quantifying increment-consuming emissions, might calculate the difference between baseline emissions based on AP-42 and current emissions based on CEM data. In the case of Leland Olds, AP-42 calculations tend to underestimate emissions, compared to CEM measurements. Thus, an apples-to-oranges comparison of AP-42 emissions to

CEM emissions would tend to artificially inflate the difference and overstate the amount of increment-consuming emissions.

Basin Electric has devised a method for making a more accurate comparison based on CEM data. This involves back-calculating simulated CEM emissions for the 1976-77 period, as explained further below. The results are shown graphically in Figures 6 and 7. Figures 6 and 7 depict maximum hourly emission rates based on: (1) CEM data for 1995-2000, (2) back-calculated simulated CEM data for 1974-79, and (3) for illustrative purposes, the Department's maximum AP-42-based rates for 1974-79. Annual rates are not shown because there is no issue respecting exceedance of annual Class I SO2 increments. It is evident that the AP-42 calculations underestimate baseline emissions.

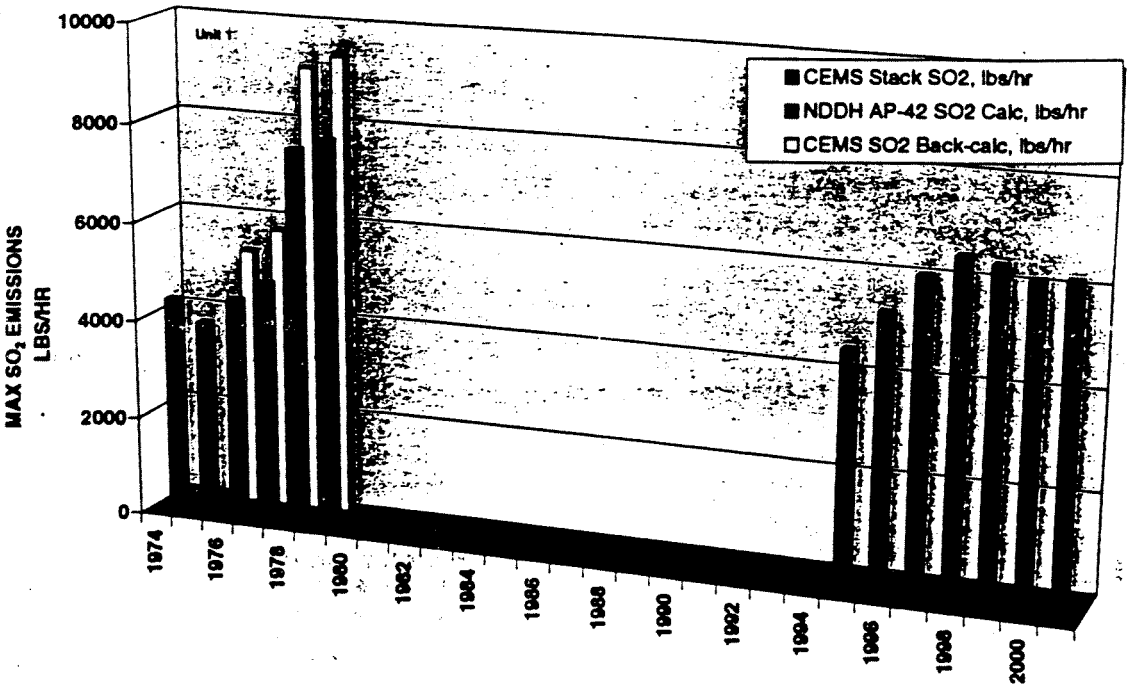

Figure 6
Comparison Of NDDH
Calculation of SO_2 Emissions Data with CEM Data
LOS Unit #1

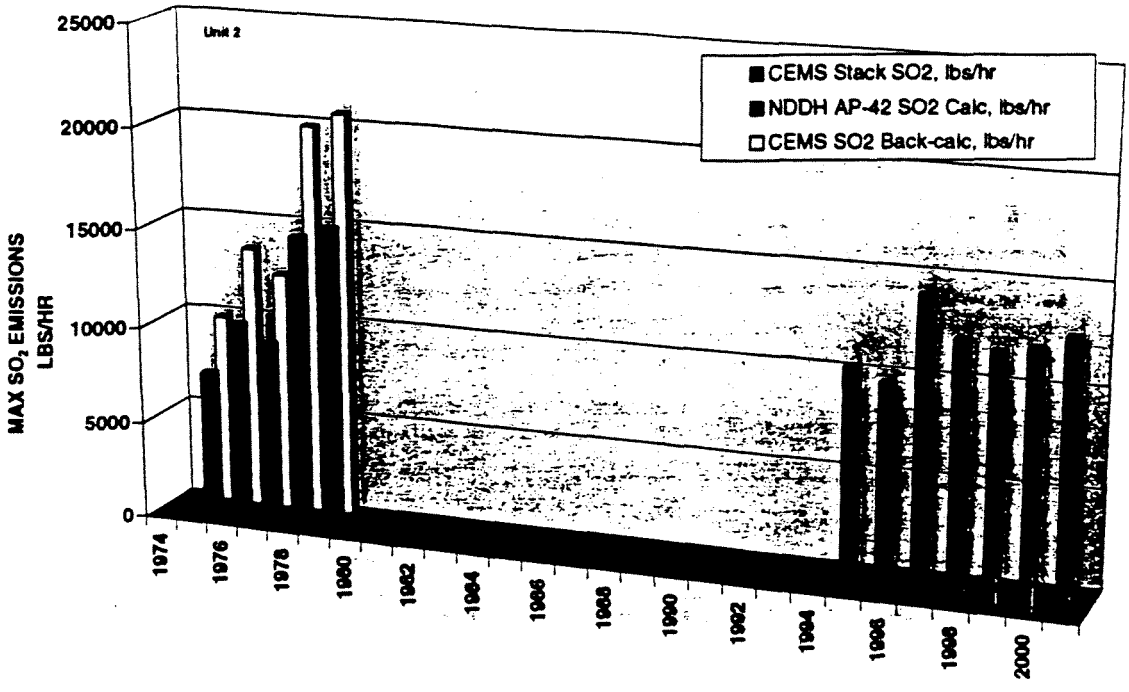

Figure 7
Comparison Of NDDH
Calculation of SO_2 Emissions Data with CEM Data
LOS Unit #2

The numerical values which are depicted graphically in Figures 6 and 7 are shown in Exhibit I. The following is the method for back-calculating simulated CEM data for 1974-79.

"CEMS SO_2 Back-calc, lbs/hr" was determined using a revised version of the AP-42 SO_2 calculation applied by the NDDH, which is:

SO_2 emission factor – 30 lb/ton*S (fraction of sulfur)

The 30 lb/ton value was replaced by a similar LOS specific constant which was based on actual LOS plant Unit data. Average sulfur content (in percent) and feed rate (in tons per hour) were computed for each quarter from 1995 through 2000 for each LOS unit, which is when CEMS data were available. The average CEMS SO_2 emissions also were noted for each quarter. The corresponding LOS specific SO_2 calculation constant, as opposed to the AP-42 value of 30, was "back calculated" for each quarter such that the calculated SO_2 emission rate matched the quarterly average CEMS value. The quarterly LOS-specific SO_2 calculation constants were then averaged for each LOS Unit for 1995-2000. This approach is believed to be conservative, given that the LOS specific SO_2

calculation constant is based on a 6-year average, rather than one maximum hourly values.

For Unit 1 the resulting constant was 36.0. For Unit 2 the resulting constant was 40.5. Using these constants for each LOS Unit respectively, the 1974-1979 CEMS back calculated maximum hourly baseline emission rates were developed using the AP-42 equations.

These data shows that there has been little if any increase in CEMS-based maximum hourly emission rates since 1976-1977. Moreover, as can be seen from Figures 6 and 7 and Exhibit I, the emission rates developed for 1976-77 were abnormally low compared to the more representative rates for 1978-79. If 1978-79 emissions were utilized as representative of normal baseline operations, there would be no increment-consuming emissions from LOS, because current emissions are lower than those in 1978-79.

Question 3. This concerns the issue whether the baseline years of 1976-77 are representative of normal operation of Leland Olds Station. As noted earlier in describing the history and design of LOS and its base load and maximum capacity, and in Section III above, 1976-77 SO2 emissions are not representative of normal operation of LOS 1 & 2. See, e.g., Figures 8 and 9 which reflect annual SO_2 emissions excerpted from NDDH files.

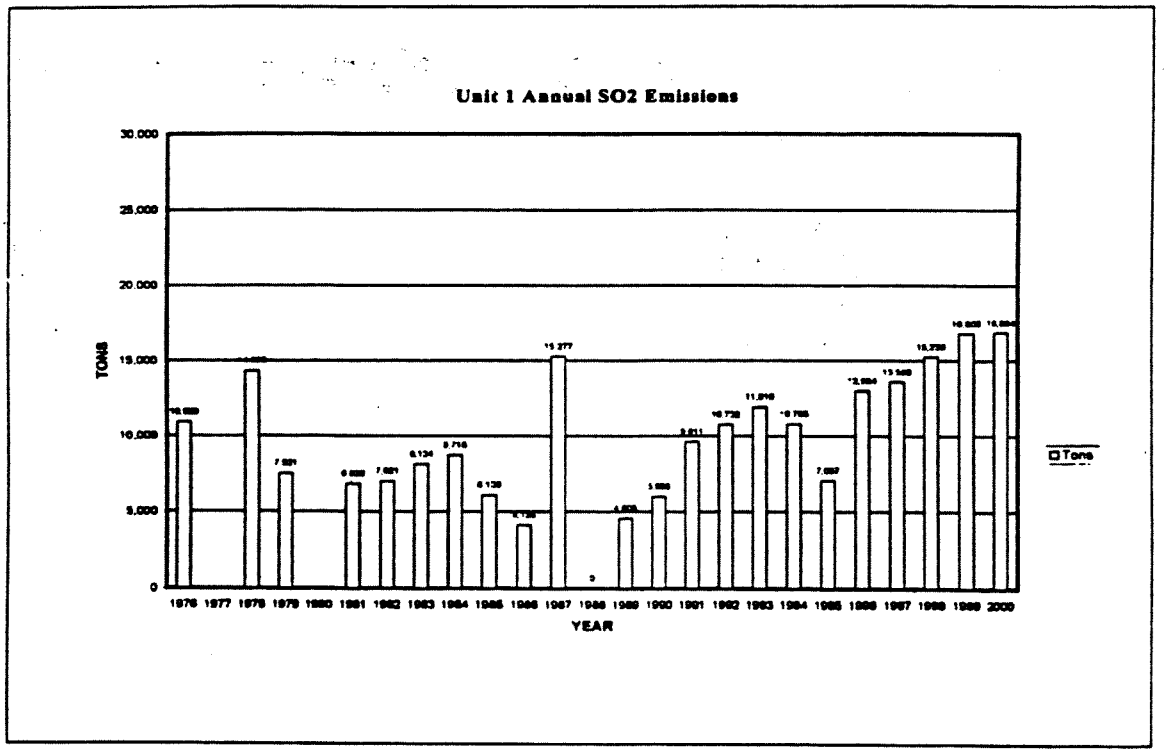

Figure 8

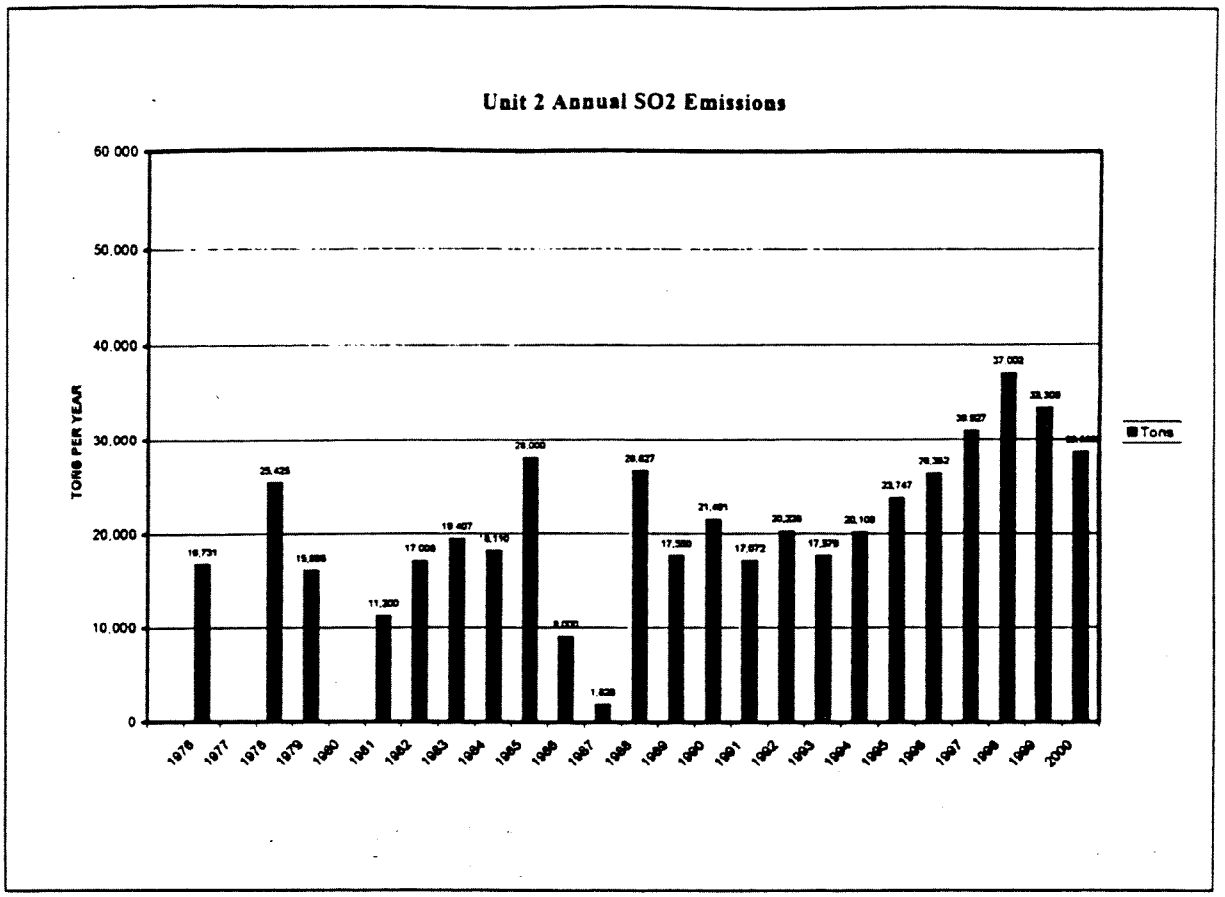

Figure 9

As shown by those figures, the years 1976 and 1977 are not representative. Indeed, there are no two years that are evidently representative or characteristic of the source. In the last few years LOS Units 1 & 2 have operated at levels which more nearly approach the level of operation for which LOS was designed and permitted, but the plant has not reached its designed and permitted level of operation. Emissions during the two-year period 1976-1977 were anomalously low, on the order of 40 percent of the more representative operation that has taken place in the last several years.

Basin Electric has also compiled the sulfur analysis of the coal consumed at LOS and the annual tonnage of the coal consumed. These are shown for the years 1976-2000 in Figures 10, 11, 12, and 13.

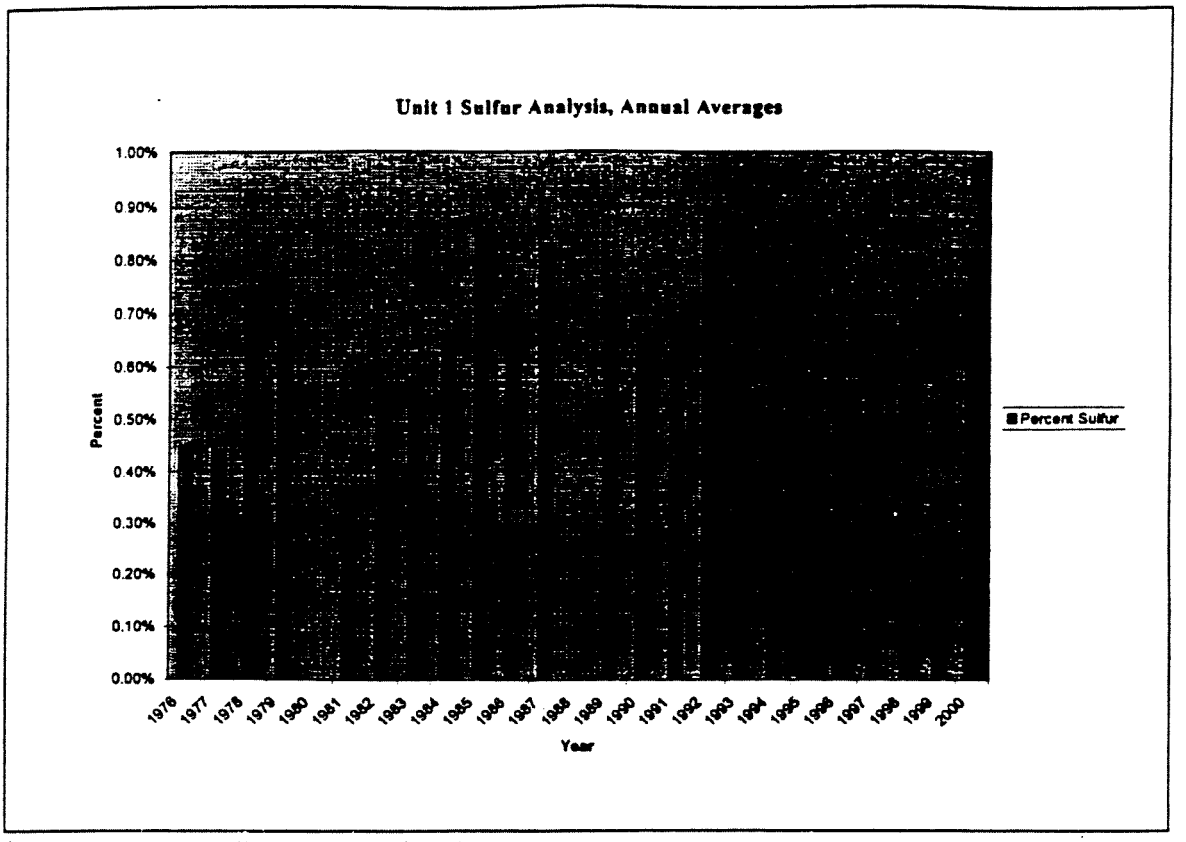
Unit 1 Sulfur Analysis, Annual Averages
1.00%
0.90%
0.80%
0.70%
0.60%
0.50%
0.40%
0.30%
0.20%
0.10%
0.00%
Percent
1976
1977
1978
1979
1980
1981
1982
1983
1984
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
Year
Percent Sulfur

Figure 10

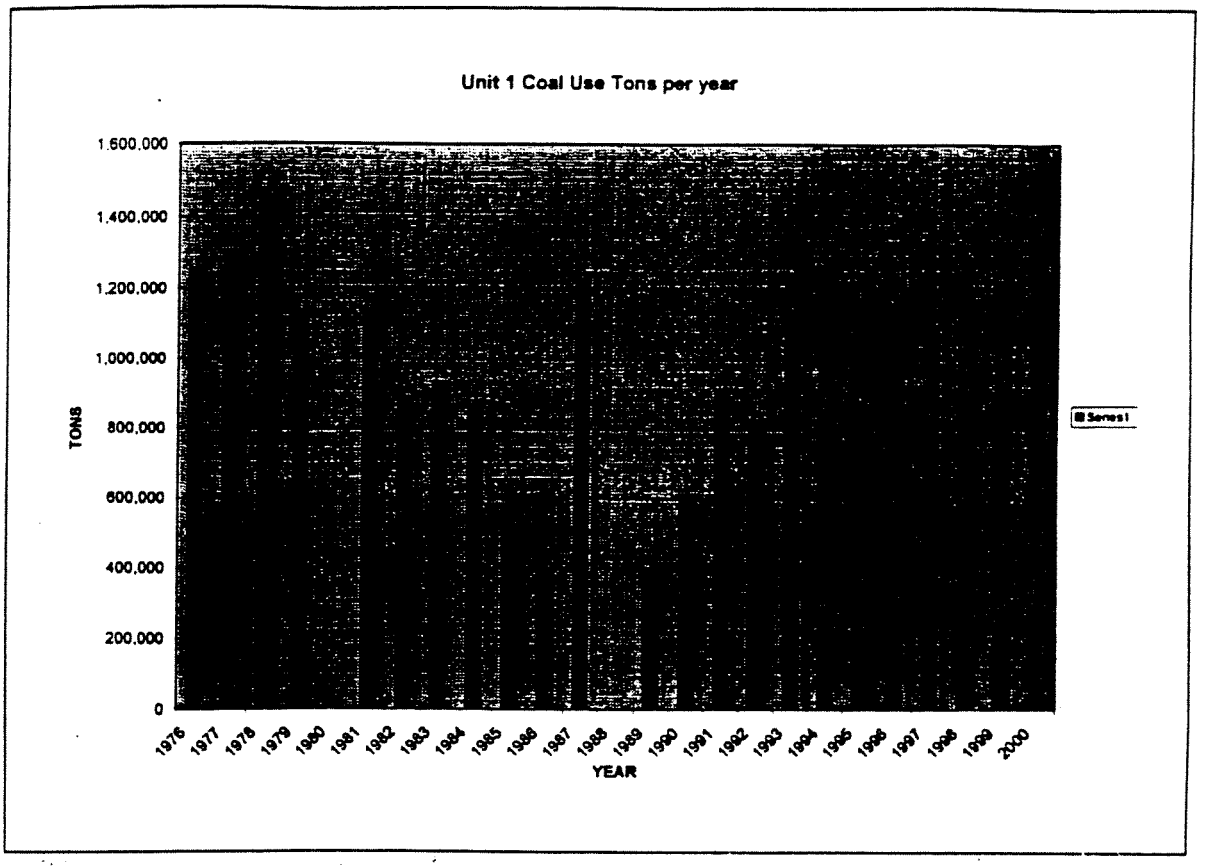
Unit 1 Coal Use Tons per year
1,600,000
1,400,000
1,200,000
1,000,000
800,000
600,000
400,000
200,000
0
TONS
1976
1977
1978
1979
1980
1981
1982
1983
1984
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
YEAR
Series1

Figure 11

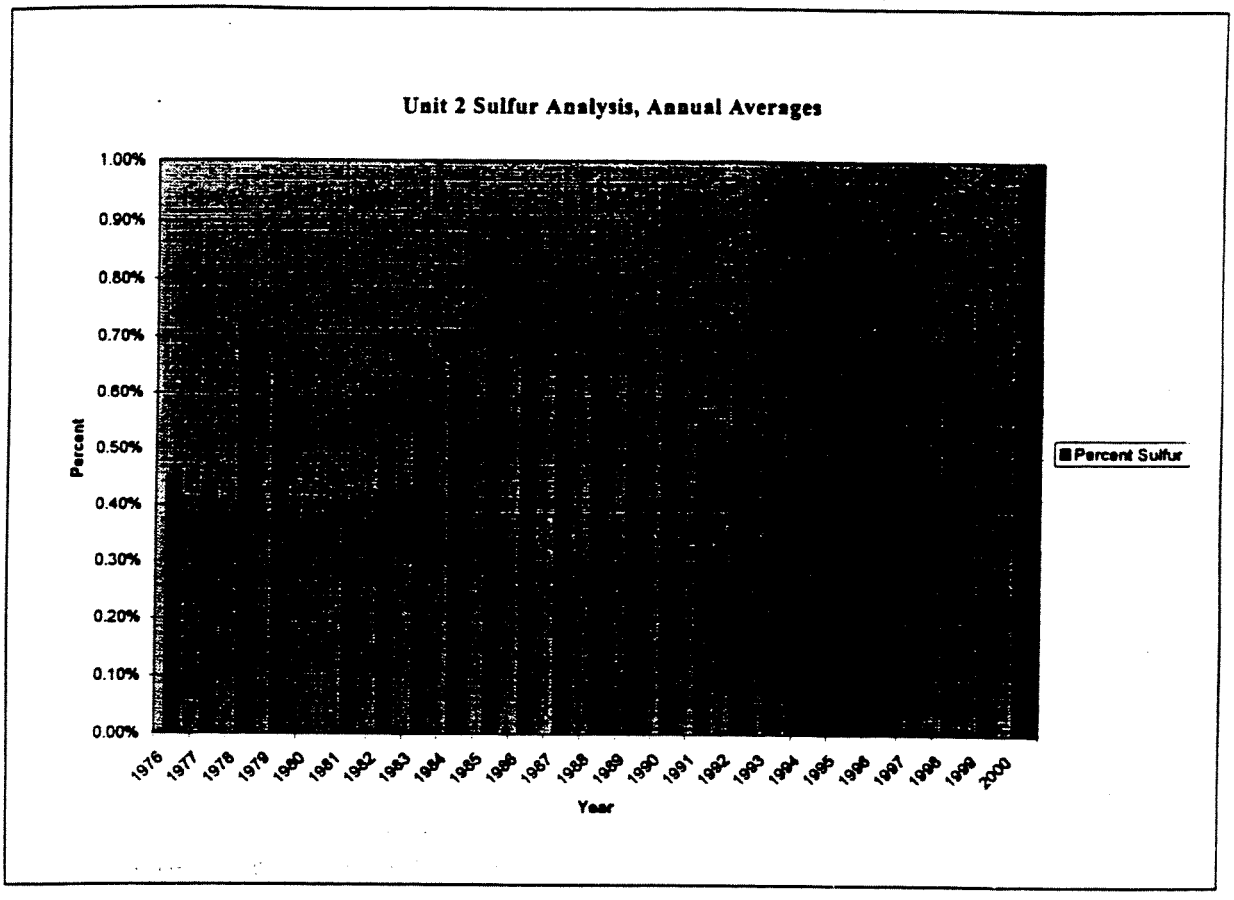
Unit 2 Sulfur Analysis, Annual Averages
1.00%
0.90%
0.80%
0.70%
0.60%
0.50%
0.40%
0.30%
0.20%
0.10%
0.00%
Percent
1976
1977
1978
1979
1980
1981
1982
1983
1984
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
Year
Percent Sulfur

Figure 12

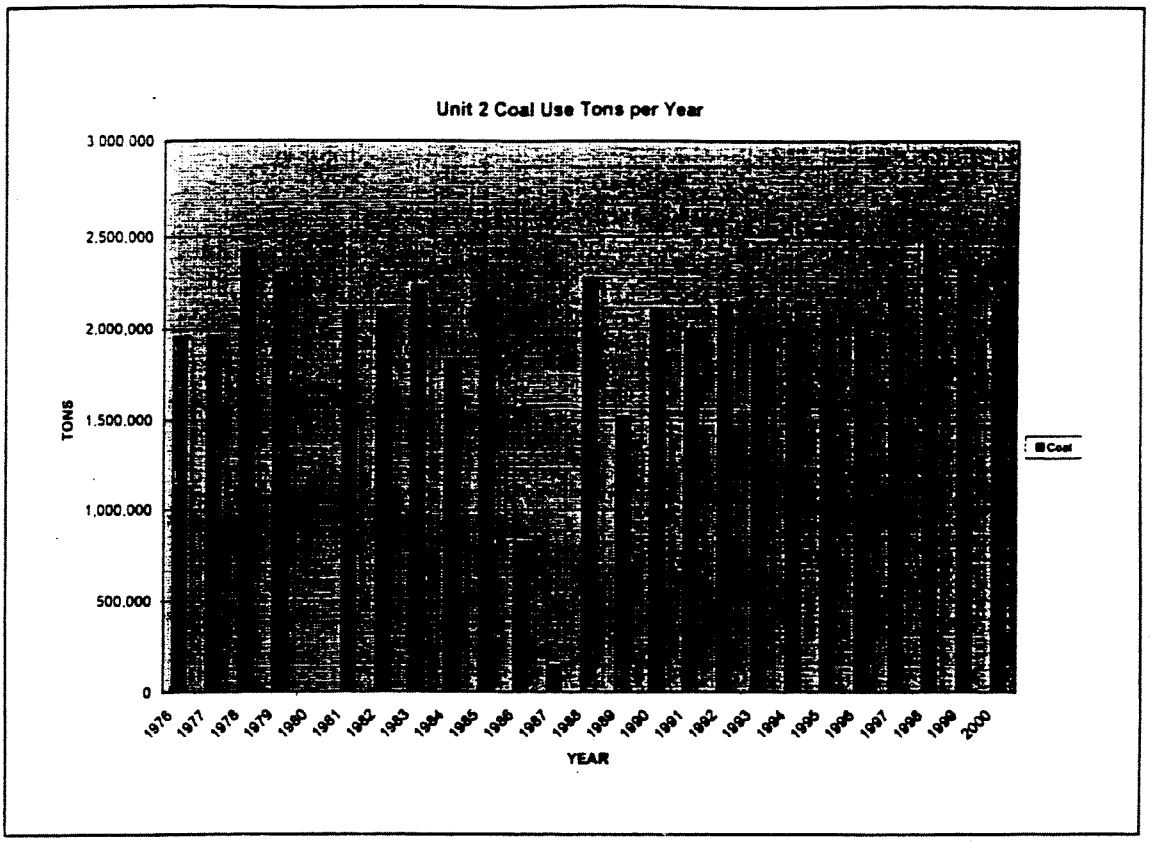

Figure 13

It is evident that the average sulfur in the fuel at LOS was anomalously low during 1976-1977. Coal has varied in sulfur content from the different mines that have supplied LOS and within each mine. Coal use during 1976 and 1977 was relatively high at Unit 1 and somewhat lower at Unit 2, and in neither case can an "average" or "representative" period be discerned. The data from which "representative" periods of operation might be discerned show no "representative" sulfur levels or coal consumed, leaving no satisfactory basis for estimating "representative emissions" from historical data, much less for the shorter periods of time modeled for which potential increment consumption problems may be presented.

NDDH notes that "potential to emit" may be used "if little or no operating data are available," as in the case of a source that has not yet operated. Basin Electric believes that the most appropriate emissions baseline for LOS is source-specific allowable emissions, and that those are representative of what LOS was designed and planned to emit. However, Basin Electric also believes that there is little or no operating data for emissions estimation during the period in question, and that it is insufficient to base emission estimates for a purpose as important as retroactive emission control calculation. In those circumstances, Basin Electric would have no objection to the use of "potential to emit" to estimate the emissions included in the baseline concentration or those for the period 1976-1977.

In no event should 1976-77 be used as the baseline period, because that period was not representative of typical operations. If the Department declines to use allowable or potential emissions as baseline emissions, one alternative would be to use 1978-79 as the representative baseline and the short-term emission rates in Figures 6 and 7 and Exhibit I as baseline emissions.

Question 4. Not Applicable.

Question 5. Please provide the emission rates (lb/hr) which you believe are the baseline emission rates for your units on a 3-hour, 24-hour and annual basis and any supporting documentation.

Basin Electric submits that, for the reasons set forth above, its allowable emission rates contained in its permits for LOS Units 1 & 2 are the baseline emission rates. Those rates are 6,930 lb/hr (3-hr rolling average) for LOS Unit 1, 13,668 lb/hr (3-hr rolling average) for LOS Unit 2, and 3.0 lb/MMBTU for both units.

V. Treatment of Increment-Expanding Sources.

In its Draft Technical Support Document for the Proposed 2000 SIP Call ("TSD"), EPA stated that the five increment-expanding sources in North Dakota should be modeled, for the three-hour and 24-hour averaging periods, using the annual average operating rate during the baseline period, rather than peak operating rates or maximum short-term emission rates. Basin Electric understands that, despite its initial intent to use maximum rates, the NDDH followed EPA's recommendation when modeling for the Milton R. Young Station permit. We also understand that the NDDH intends to use the same approach for its proposed Class I modeling.

Basin Electric believes the EPA's recommended approach is erroneous, and conflicts with existing precedent, including EPA's own guidance. EPA acknowledged in the TSD that its own Draft New Source Review Workshop Manual (October, 1990) ("NSR Manual") supports the use of maximum short-term emissions. The NSR Manual provides:

> "For each short-term averaging period (24 hours or less), the change in the actual emissions rate for the particular averaging period is calculated as the difference between:
>
> - the current maximum actual emissions rate, and
> - the maximum actual emissions rate as of the minor source baseline date..."

EPA's recommendation to the NDDH directly contradicts the methodology prescribed by EPA's own manual. The justification offered by EPA was that using peak short-term emission rates would overestimate increment expansion because it is extremely unlikely the sources were operating at peak levels at the time of worst meteorology. EPA's justification would apply a double standard. For increment-expanding sources, EPA seeks to avoid modeling which combines highest emission rates and worst-case

meteorology. However, for increment-consuming sources, it requires that highest emission rates be modeled in combination with worst-case meteorology, even if the two are extremely unlikely to be combined in reality.

Basin Electric submits that EPA's double standard is very unfair and has no basis in law or logic. If EPA were prepared to authorize the use of annual average emission rates for modeling short-term increment consumption by increment-consuming sources, its instruction to do so for increment-expanding sources would be fair. Otherwise, EPA and the NDDH should follow the rules in EPA's NSR manual and use maximum short-term emission rates to model increment-expanding sources.

Basin Electric appreciates the opportunity to respond to NDDH's request for information and to provide its views on the important issues presented by EPA's threat of a SIP call. It also appreciates the careful and thorough work that NDDH has devoted to this issue. Basin Electric strongly believes that a careful review of applicable law and evidence leads to the conclusion there is no significant deterioration to justify a SIP call or comparable state action. We rely on NDDH's sound discretion in making a determination on that issue.

Sincerely,

Deborah Levchak
Staff Counsel

dfl/mw
Enclosures
cc: Frances Schwindt
Lyle Whitham